ABSTRACT OF THE DISCLOSURE

A three-dimensional surface shape is produced from input numerical data. The shape of a sheet elastic material is determined by the positions of a matrix of control rods. The position of each of the rods is determined by a computer-controlled system. Each rod is fitted with two pneumatically controlled locking mechanisms, one for the X coordinate and one for the Y coordinate. When both locks on a particular rod are released the rod is free to move to a new position determined by an elevator. Once all of the rods have been adjusted they are locked in position and the surface has been configured. In one application, the surface can be used as a mold for casting a replica or in another application can be used as the screen in an image projection system.

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